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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,239	09/17/2003	Joseph M. MacNamara	28679/05381 (02-084 US)	3289

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EXAMINER	
NGUYEN, CUONG H	
ART UNIT	**PAPER NUMBER**
3661	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,239	MACNAMARA ET AL.	
	Examiner	Art Unit	
	CUONG H. NGUYEN	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1--29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is the answer to the Amendment received on 3/24/06 which paper has been placed of record in the file.

2. Claims 1-29 are pending in this application.

Drawings

3. The submitted drawings on 3/24/06 are acceptable for examining purposes.

Response

4. The arguments are moot from applicant's reasoning. New ground of rejections on 35 USC 103 are submitted here in.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-4, 6, 10, 14-15, 18-19, 21, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023).

A. As per claim 1, and 14: Abe teaches a remote diagnostic unit for use with a vehicle (see Abe, Figs 1(a) & 1(b)), comprising:

- a pin connector (24) communicating with a data bus on the vehicle, the pin connector receiving a signal from the data bus (see Abe, Fig. 2B ref. 24, and col.3 lines 58-61);

Abe does not expressly disclose a function of block 25 in Fig.2 comprising a microcontroller receiving and interpreting a standard diagnostic message as a function of the signal received by the pin connector.

However, the examiner respectfully submits that this block 28 in Fig.2 is capable of performing that function (see Abe, Fig. 2B ref.28, and col.3 lines 65-67);

and

- a plurality of lights controlled by the microcontroller as a function of the standard diagnostic message (see Abe, Fig. 2B, and col.4 lines 13-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Abe to clearly disclose a function of block 25 in Fig.2 comprising a microcontroller receiving and interpreting a standard diagnostic message as a function of the signal received by the pin connector (see Abe, Fig. 2B block 24) because that component (Abe's DIAGNOSIS UNIT 25) is doing exactly what the applicant claims.

Note: The examiner is unclear about applicant's numerous arguments of "Abe is not concerned with ...", because what the applicant claims are capabilities of Abe's device, and actually Abe uses those "concerns"; further, Abe's system/unit/device claim comprises physical components/structure that can perform what claim.

B. As per claims 18, and 21: Abe teaches a system for diagnosing an electrical system on a vehicle (see Abe, Figs 1(a) & 1(b)), comprising:

- an electronic control unit (see Abe, Figs 1(a) & 1(b) ECUs 501-504, and col.2 lines 50-67);

- a data bus communicating with the electronic control unit (see Abe, Fig. 2B – communication bus 24a),; and

- a remote diagnostic unit, including: a pin connector;

a microcontroller receiving and interpreting a standard diagnostic message as a function of the signal received by the pin connector; and

a plurality of lights controlled by the microcontroller as a function of the standard diagnostic message (see the same rationales and reference for a rejection as in claim 1).

C. As per claims 10, and 25: Abe also teaches limitations in an interface claim 10, and a method claim 25.

D. As per claims 3, 15, 19, and 28: Abe also teaches:

- a reset switch, communicating with the microcontroller, for at least one of clearing the diagnostic message from an ECU and causing the ECU to enter a self-configuration mode (see Abe, col.3 lines 38-47).

E. As per claim 4:Abe also teaches a remote diagnostic unit with capability to indicate a status of an ABS on the vehicle (see Abe, col.3 lines 29-36).

F. As per claim 6: Abe also teaches a signal conditioner, between the pin connector (24) and the controller's CPU 36, for conditioning the signal received by the pin connector into the standard diagnostic message, which is interpreted by the CPU 36 of Fig.2B.

G. As per claims 9, and 17: Abe teaches about using LED (light emitting diodes) in col.4 lines 13-23.

6. Claims 2, 5, 12, 20, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023).

A. As per claims 2, 12, and 23: Abe is silent on disclosing about using a micro-controller includes a UART.

However, the examiner respectfully submits that an UART is merely a familiar computer component that handles asynchronous serial communication. Every computer contains a UART to manage the serial ports, and some internal modems have their own UART).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Abe to disclose the use of a UART for electronic communications because that component is efficient in handling asynchronous serial communication to manage serial ports, and internal modems.

B. As to dependent claims 5, 20, and 24: Abe does not disclose that his data bus is a J1587 serial data bus, including pin connectors for communicating with the J 1587 serial data bus.

However, using a serial data bus J1587 in vehicle communication lines has been well known (e.g., see "Technician Guidelines for Antilock Braking Systems", or see "Electronic Data Interchange Between Microcomputer Systems in Heavy-Duty Vehicle ..." by SAE International).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Abe to disclose the use of a J1587 serial data bus because SAE has already adopted a J1587 standard for electronic data

interchange. Therefore in a heavy vehicle, data bus may conveniently communicate/ transfer data messages containing related information.

7. Claims 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023), in view of Tinsley et al., (US Pat. 6,343,617).

The rationales and reference for rejection of claim 6 are incorporated.

Abe is silent about using an RS485 device.

However, Tinsley et al. teach that a signal conditioner is an RS485 device (see Tinsley et al., col. 3 lines 42-48, and col. 7 lines 40-46).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Abe and Tinsley et al. to disclose a signal conditioner is an RS485 device for the advantage of insuring compatibility between units provided by different manufacturers, and to allow for reasonable success in transferring data over specified distances and data rates.

Note: The examiner is unclear about applicant's numerous arguments of "Abe/Tinsley et al. is not concerned with ...", because what the applicant claims are capabilities of teaching device, and actually Abe/Tinsley et al. uses those "concerns".

8. Claims 8, 13, 22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023), in view of Hutchinson (US Pat. 6,750,787).

The rationales and reference for rejection of claim 18 are incorporated.

Abe does not disclose that a controller is a PIC16F870 device.

However, Hutchinson teaches this limitation (see Hutchinson, col.15 lines 1-12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Abe and Hutchinson to disclose that a

controller is a PIC16F870 device for the advantage of a reduction in the normal current supplied to circuit's infrared LED.

9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023), in view of Tinsley et al., (US Pat. 6,343,617), and in view of Hutchinson (US Pat. 6,750,787).

The rationales and reference for rejection of claim 26 are incorporated.

The combination of above rationales and references for rejections of claims 2 and 7 providing that a step for remotely displaying a fault status, wherein: transforming the signal into a standard message in a circuit including an RS485; and identifying a fault status within a UART included within a controller of the remote diagnostic unit is not an inventive concept.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Abe, Tinsley et al., and Hutchinson to disclose to disclose a signal conditioner is an RS485 device for the advantage of insuring compatibility between units provided by different manufacturers, and to allow for reasonable success in transferring data over specified distances and data rates; and to teach the use of a UART for electronic communications because that component is efficient in handling asynchronous serial communication to manage serial ports, and internal modems.

10. Claims 16, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Pat. 5,056,023), in view of Fiske et al. (US Pat. 5,644,491).

The rationales and reference for rejection of claim 15 are incorporated.

Abe does not disclose that a reset switch is activated in response to a magnet; the ECU is cleared when the reset switch is activated for a first period of time; and the ECU enters the reconfiguration mode when the reset switch is activated for a second period of time.

However, Fiske et al. suggest a button is used to reset a controller/switch's function (see Fiske et al., Fig.6, and col.4 lines 51-65). The examiner respectfully submits that pressing a button one, or twice within a programmed/required duration would generate different results because each would execute different functions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Abe and Fiske et al. to disclose that a reset switch is activated in response to a magnet; the ECU is cleared when the reset switch is activated for a first period of time; and the ECU enters the reconfiguration mode when the reset switch is activated for a second period of time. The motivation is to use the available current to control activation of an electronic component, and creating different controlled functions with the use of one reset switch.

Conclusion

11. Claims 1-29 are not patentable.

12. Remark: The applicants argue about a single prior art "not disclose", or "not being concerned with ...", the examiner respectfully submits that a combination of cited references suggest what was claimed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759. The examiner can normally be reached on 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.

Cuonghnguyen

CUONG H. NGUYEN
Primary Examiner
Art Unit 3661